Claims

[c1] A computed tomography assembly comprising: an x-ray gantry assembly; an x-ray source projecting a beam of x-rays; a detector assembly positioned opposite said x-ray source, said detector assembly receiving said beam of xrays after said beam of x-rays pass through an object; a control mechanism in communication with said x-ray source and said detector assembly, said control mechanism comprising logic adapted to: execute at least one scout scan of said object, said at least one scout scan producing a first scout scan image; generate an elliptical patient model based on said first scout scan image; match said elliptical patient model to a phantom diameter approximation; generate a dose report based on said phantom diameter approximation; and display said dose report on a display, said display in communication with said control mechanism.

[c2] A computed tomography assembly as described in claim 1, wherein said at least one scout scan comprises two

- orthogonal scout scans.
- [c3] A computed tomography assembly as described in claim 1, wherein said at least one scout scan comprises: a lateral scout scan; and an anteroposterior scout scan.
- [c4] A computed tomography assembly as described in claim 1, further comprising:
 an elevation reference in communication with said control mechanism; and wherein said logic is adapted to:
 utilize said elevation reference in combination with said at least one scout scan to generate said elliptical patient model.
- [c5] A computed tomography assembly as described in claim 1, further comprising: at least one laser position measurement device in communication with said control mechanism; and wherein said logic is adapted to: utilize said laser position measurement device in combination with said at least one scout scan to generate said elliptical patient model.
- [06] A computed tomography assembly as described in claim 1, further comprising:

at least one sonic displacement device in communication with said control mechanism; and wherein said logic is adapted to: utilize said sonic displacement device in combination with said at least one scout scan to generate said elliptical patient model.

- [c7] A computed tomography assembly as described in claim 1, wherein said logic is adapted to further comprise: utilizing said elliptical patient model to generate a dose minimized imaging sequence.
- [08] A computed tomography assembly as described in claim 7, wherein said dose report is generated by combining said phantom diameter approximation with said dose minimized imaging sequence.
- [c9] A computed tomography assembly as described in claim 7, wherein dose minimized imaging sequence comprises: adjusting a bowtie element positioned within said x-ray source to minimize radiation exposure to said object.
- [c10] A computed tomography assembly as described in claim 7, wherein dose minimized imaging sequence comprises: adjusting a current modulation of said x-ray source to minimize radiation exposure to said object.
- [c11] A computed tomography assembly as described in claim

- 7, wherein dose minimized imaging sequence comprises: calculating object centering information; adjusting a current modulation of said x-ray source to compensate for said object centering information.
- [c12] A computed tomography assembly as described in claim 7, wherein dose minimized imaging sequence comprises: calculating object centering information; adjusting a bowtie element positioned within said x-ray source to compensate for said object centering information.
- [c13] A computed tomography assembly comprising:
 an x-ray gantry assembly;
 an x-ray source projecting a beam of x-rays;
 a detector assembly positioned opposite said x-ray
 source, said detector assembly receiving said beam of xrays after said beam of x-rays pass through an object;
 a control mechanism in communication with said x-ray
 source and said detector assembly, said control mechanism comprising logic adapted to:
 execute at least one scan of said object, said at least one
 scan producing a first scan image;
 generate an elliptical patient model based on said first
 scan image;
 match said elliptical patient model to a phantom diame-

ter approximation;

generate a dose report based on said phantom diameter approximation;

display said dose report on a display, said display in communication with said control mechanism; and utilize said elliptical patient model to generate a dose minimized imaging sequence.

- [c14] 14.A computed tomography assembly as described in claim 13, wherein said dose report is generated by combining said phantom diameter approximation with said dose minimized imaging sequence.
- [c15] A computed tomography assembly as described in claim 13, wherein dose minimized imaging sequence comprises:

 adjusting a bowtie element positioned within said x-ray source to minimize radiation exposure to said object.
- [c16] A computed tomography assembly as described in claim 13, wherein dose minimized imaging sequence comprises:

 adjusting a current modulation of said x-ray source to minimize radiation exposure to said object.
- [c17] A computed tomography assembly as described in claim 13, wherein dose minimized imaging sequence comprises:

- calculating object centering information; adjusting a current modulation of said x-ray source to compensate for said object centering information.
- [c18] A computed tomography assembly as described in claim 13, wherein said at least one scan comprises two orthogonal scout scans.
- [c19] A computed tomography assembly as described in claim 13, wherein said at least one scan comprises a contour displacement sensor scan.
- [c20] A method of imaging an object utilizing a computed tomography assembly comprising:
 executing at least one scout scan of the object, said at
 least one scout scan producing a first scout scan image;
 generating an elliptical patient model based on said first
 scout scan image using a control mechanism;
 matching said elliptical patient model to a phantom diameter approximation using said control mechanism;
 generating a dose report automatically based on said
 phantom diameter approximation; and
 display said dose report on a display, said display in
 communication with said control mechanism.